

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-018886**Date Inspected:** 23-Nov-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Gang Wei**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

On this day CALTRANS OSM Quality Assurance(QA) Inspector Mr.Shrikant Utekar was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island in Shanghai, China. The QA Inspector observed and/or found the following:

BAY # 14

**MAGNETIC PARTICLE TESTING**

ZPMC NWIT No: 07459

This QA Inspector performed Magnetic Particle Testing (MT) of approximately 15% of the length previously tested and accepted by ZPMC Quality Control personnel. This QA Inspector generated an (MT) report on this date. The members are identified as CA3015. The weld designations are as follows:

CA3015B-004~08, 101~106, 151~160, CA3015C-004~008, 055~060,101~103, 151~155

This QA Inspector observed the following issue during the random visual inspection in bay # 14 .

**Issue No. 1**

ZPMC personnel performed welding for the fillet weld between "I" stiffener and bottom panel without adequate preheating of the adjacent base material, during the welding this QA Inspector observed a 140 degree Celsius

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Tempstick did not melt when applied to the adjacent base material. Weld number identified as SEG3019AJ-156, rib stiffener identified as RS8002B, bottom plate identified as BP3084A and BP3083A, BP3083A and BP3084A are designated on the approved shop drawings as Seismic Performance Critical Members (SPCM), the welding performed with Flux Cored Arc Welding (FCAW) process, area was being preheated using electric strip heaters.

## Issue No.2

ZPMC did not perform PWHT after complete weld repair before the temperature falls below the preheat temperature on the weld joint between “I” rib stiffeners (RS3214C) to the plate (PL3279A), this QA Inspector observed a 140 degree Celsius Tempstick did not melt when applied to the adjacent base material, weld number identified as VP3007A-001-016, 004, 055.

PL3279A designated on the approved shop drawings as Seismic Performance Critical Members (SPCM). The welding performed with Shielded Metal Arc Welding (SMAW) process, this welds are detailed as a complete joint penetration (CJP), Fracture critical weld (FCW).

## Issue No.3

ZPMC personnel performed buttering on the edge of the plate SP3126 without adequate preheating of the adjacent base material, this QA Inspector observed a 140 degree Celsius Tempstick did not melt when applied to the adjacent base material. The welding performed with Shielded Metal Arc Welding (SMAW) process during welding did not appear any electric strip heaters or torch

## Issue No.4

ZPMC personnel performed weld repair for the weld between “I” rib stiffener (RS3214C) and plate (PL3279A) without performing NDT (Magnetic Particle testing) on the excavated area. Weld number identified as VP3007A-001-004, weld details as complete joint penetration (CJP), Fracture critical weld (FCW), PL3279A designated on the approved shop drawings as Seismic Performance Critical Members (SPCM), the welding performed with Shielded Metal Arc Welding (SMAW) process.

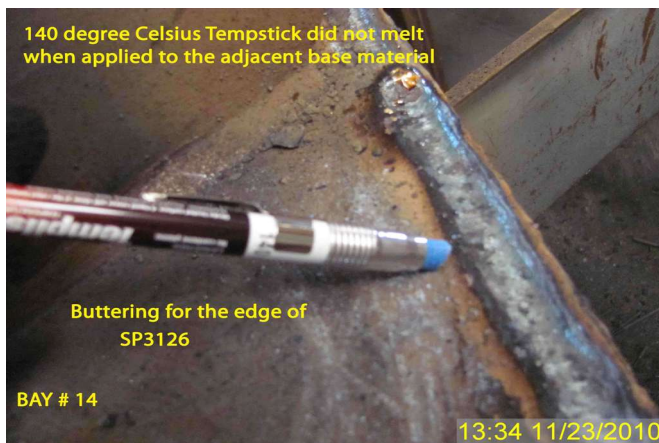
Incidents reports was issued for all above issue, for more detail see attached photos.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.



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## Summary of Conversations:

No significant conversations were reported on this date.

## Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang, +(86) 1500 042 2372, who represents the Office of Structural Materials for your project.

**Inspected By:** Utekar,Shrikant

Quality Assurance Inspector

**Reviewed By:** Patterson,Rodney

QA Reviewer